

Applicant: Rata Ilkka
PCT App. No.: PCT/FI2004/050006

Claim Listing

1-11 (canceled)

12. (new) Equipment in a papermaking machine including a blade holder comprising:
- a surface mounted for motion;
 - a frame arranged in the vicinity of the said surface, and mounted for motion;
 - a blade holder formed of a composite material and forming an essentially integral component, which is removably connected to the frame with a pair of form-lockable counter clamps;
 - a blade, adapted to the blade holder, including an edge extending in a longitudinal blade direction, the edge arranged to be placed in contact with the surface mounted for motion, by a movement of the blade holder;
 - wherein the pair of form-lockable counter clamps are arranged to prevent moment in a lateral direction, defined by the blade and transverse to the longitudinal blade direction;
 - wherein the pair of form-lockable counter clamps are arranged to provide essentially free motion in the longitudinal direction of the blade; and
 - a separate backing blade mounted to the blade holder by a first end, set to or attached to the blade holder, and the backing blade having a second end which extends closer to the edge than the blade holder.
13. (new) The apparatus of claim 12 wherein a first counter clamp of the pair of counter clamps is a profiled shoulder, which is covered on an opposite side by a second counter clamp.

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14. (new) The apparatus of claim 12, wherein the blade holder has a front part and a rear part and extends in the lateral direction therebetween, and a first counter clamp of the pair of counter clamps is arranged in the rear part parallel to the blade holder, and wherein the blade is attached to the front part of the blade holder.

15. (new) The apparatus of claim 12 wherein the pair of counter clamps comprises a first counter clamp and a second counter clamp, and wherein one of the first counter clamp and the second counter clamp forms part of an adapter component which is connected to the frame.

16. (new) The apparatus of claim 12, wherein one of the counter clamps forming the pair of counter clamps is mounted to the frame.

17. (new) The apparatus of claim 12, wherein the pair of counter clamps is arranged as a mutually functional articulation, so that an angle between the counter clamps can be varied while the pair of form-lockable counter clamps prevents movement in a lateral direction.

18. (new) The apparatus of claim 15, wherein the pair of counter clamps is arranged as a mutually functional articulation, so that an angle between the counter clamps can be varied while the pair of form-lockable counter clamps prevents movement in a lateral direction, and further comprising loading elements between the adapter component and the blade holder.

19. (new) The apparatus of claim 18, wherein either or both of the counter clamps of the pair of counter clamps have at least one provision for a loading element.

20. (new) The apparatus of claim 18, wherein the loading elements are formed of loading hoses or springs.

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21. (new) The apparatus of claim 12, wherein the backing blade has a first end with a form-locking detent, connecting the backing blade removably to the blade holder.

22. (new) The apparatus of claim 21, wherein the blade holder has at least two fastening points for the form-locking detent for adjusting the position of the backing blade in the lateral direction.

23. (new) A blade holder for a papermaking machine, comprising:
a single integral longitudinally extending component which is a composite material pultrusion, the component having a front portion and a rear portion and extending in a lateral direction therebetween, the lateral direction being transverse to a longitudinal direction defined by the longitudinally extending component, the rear portion forming a longitudinally extending shoulder arranged to form one part of a pair of form-lockable counter clamps;
wherein the longitudinally extending shoulder has portions which cooperate in forming a pair of form-lockable counter clamps to prevent movement in a lateral direction, and to provide essentially free motion in the longitudinal direction; and
wherein the front part of the component forms a clamp defining a gap for receiving a doctor blade, and a portion of the front part defines at least one fastening point for a backing blade, the fastening point forming a longitudinally extending groove which has a larger portion for receiving a form-locking detent and a first smaller portion extending in a direction overlying the gap.

24. (new) The blade holder of claim 23 wherein the blade holder has at least a second fastening point for a backing blade, the second fastening point forming a longitudinally extending groove which has a larger portion for receiving a form-locking detent and a second smaller portion which is in part coextensive with the first smaller portion.

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25. (new) The blade holder of claim 23 wherein a portion of the front part of the blade holder which forms the clamp extends over the gap with the said portion forming part of the first smaller portion extending in a direction overlying the gap.

26. (new) The blade holder of claim 23 wherein the composite material pultrusion has fewer reinforced fibers extending in the longitudinal direction than in the lateral direction.

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27. (new) Papermaking equipment including a blade holder comprising:
- a surface mounted for motion;
 - a frame arranged in the vicinity of said surface, and mounted for motion;
 - a blade holder formed as a composite material pultrusion and forming a single integral longitudinally extending component, the blade holder having a front part and a rear part and extending in a lateral direction therebetween, the lateral direction being transverse to a longitudinal direction defined by the longitudinally extending component, the rear portion forming a first part of a pair of form-lockable counter clamps,
 - a member having portions forming a second part of the pair of form-lockable counter clamps, said second part having portions forming a part which is connected to the frame, or is connected to an adapter component which is connected to the frame;
 - a doctor blade;
 - a backing blade;
 - wherein the front part of the blade holder forms a clamp defining a gap for receiving the doctor blade, and a portion of the front part defines at least one fastening point for the backing blade;
 - wherein the doctor blade fits within the gap defined by the clamp, the doctor blade including an edge extending in the longitudinal direction, the edge arranged to be placed in contact with the surface mounted for motion by a movement of the blade holder, and
 - wherein the pair of form-lockable counter clamps are arranged to prevent movement of the blade holder in the lateral direction;
 - wherein the pair of form-lockable counter clamps are arranged to provide free motion of the blade holder in the longitudinal direction of the blade; and
 - wherein the backing blade is mounted to the blade holder by a first end mounted to the fastening point of the blade holder, and the backing blade having a second end which extends closer to the edge of the blade than any portion of the blade holder.

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28. (new) The apparatus of claim 27 wherein the rear portion of the blade holder forms a longitudinally extending shoulder, the rear portion arranged to form one part of the pair of form-lockable counter clamps, the longitudinally extending shoulder having portions which cooperate in forming the pair of form-lockable counter clamps to prevent movement in a lateral direction, and to provide essentially free motion in the longitudinal direction.

29. (new) The apparatus of claim 27 wherein the portion of the front part defining at least one fastening point for the backing blade forms a longitudinally extending groove which has a larger portion for receiving a form-locking detent and a first smaller portion extending in a direction overlying the gap.

30. (new) The apparatus of claim 27, wherein the second counter clamp of the pair of counter clamps forms part of an adapter component, which is connected to the frame.

31. (new) The apparatus of claim 27, wherein the pair of counter clamps is arranged as a mutually functional articulation, so that an angle between the form-lockable counter clamps can be varied.

32. (new) The apparatus of claim 31, wherein at least one of the form-lockable counter clamps has at least one provision for a loading element.